ECE 530 Cloud Computing

Ioannis Papapanagiotou

Introduction to Cloud Computing

Objectives

- Students completing this module will be able to explain the motivation behind cloud computing, how it is used today, the development of I/O systems and the history of cyberinfrastructure.

What is the Cloud

- *"There is no such thing as 'the cloud,' it's just somebody else's computer"*

Is it important?

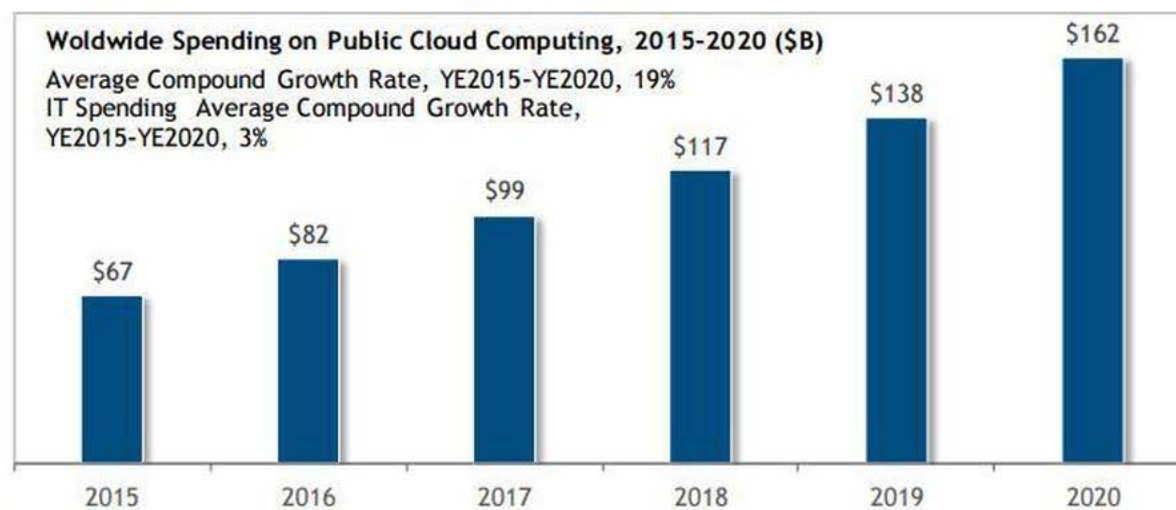**Table 1. Worldwide Public Cloud Service Revenue Forecast (Billions of U.S. Dollars)**

	2017	2018	2019	2020	2021
Cloud Business Process Services (BPaaS)	42.6	46.4	50.1	54.1	58.4
Cloud Application Infrastructure Services (PaaS)	11.9	15.0	18.6	22.7	27.3
Cloud Application Services (SaaS)	60.2	73.6	87.2	101.9	117.1
Cloud Management and Security Services	8.7	10.5	12.3	14.1	16.1
Cloud System Infrastructure Services (IaaS)	30.0	40.8	52.9	67.4	83.5
Total Market	**153.5**	**186.4**	**221.1**	**260.2**	**302.5**

BPaaS = business process as a service; IaaS = infrastructure as a service; PaaS = platform as a service; SaaS = software as a service

Note: Totals may not add up due to rounding.

Source: Gartner (April 2017)

The Rapid Growth of Cloud Computing, 2015-2020

Woldwide Spending on Public Cloud Computing, 2015-2020 ($B)

Average Compound Growth Rate, YE2015-YE2020, 19%
IT Spending Average Compound Growth Rate,
YE2015-YE2020, 3%

Year	Spending
2015	$67
2016	$82
2017	$99
2018	$117
2019	$138
2020	$162

- Forbes: Cloud computing is projected to increase from $67B in 2015 to $162B in 2020 attaining a CAGR of 19%